TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION
U.S. DEPARTMENT OF AGRICULTURE · · FOREST SERVICE

No. 437

Tolerance of Conifers to Foliage Sprays of 2,4-D and 2,4,5-T in Lower Michigan

Light applications of 2,4-D and 2,4,5-T ester foliage sprays will damage the new growth of most conifers when applied during the active growth period, but have no apparent effect after the new growth has hardened off in late summer, according to tests recently completed in northern Lower Michigan.

Concentrations of 1 and 2 lbs. acid equivalent of each chemical in 2½ and 5 gals. of water-oil carrier per acre were applied by ground spraying the foliage of 15-year-old planted red pine, white pine, jack pine, Scotch pine, Norway spruce, and white spruce at 10-day intervals from June 8 to August 18, 1954. The chemical mixtures tested are described in the table on the back of the sheet.

The new growth and some old growth of all species were killed or damaged during the period of active growth (June and early July) by all of the herbicidal mixtures regardless of their concentration or volume per acre. During the early growth period (June) the 2,4-D mixtures were more damaging to the conifers than the 2,4,5-T.

The chemical herbicide mixtures tested had no apparent effect on white spruce after July 15; after August 1 they had no effect on the other conifers, except jack pine, which exhibited some browning of the foliage up to August 15.

The foliage of adjacent broadleaf species, including red, white, and northern pin oaks, that were similarly sprayed during each treatment was killed throughout the summer.

Since the chemical herbicide mixtures were sprayed directly above the conifers, they received the full volume being tested. This would be a heavier dosage than normally is received from the same volume when applied by regular aerial spray applications because of interception of the spray particles by overhead vegetation.

From this experiment it appears that aerial sprays consisting of 1 to 2 lbs. acid equivalent of either 2,4-D or 2,4,5-T ester in 2 to 5 gals. of water-oil carrier per acre can be used after August 1 in Lower Michigan for releasing plantations from undesirable brush and trees without serious damage to the conifers.

July 1955

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MAINTAINED AT ST. PAUL 1, MINNESOTA, IN COOPERATION WITH THE UNIVERSITY OF MINNESOTA

Chemical mixtures used in tests of conifer resistance to 2,4-D and 2,4,5-T foliage sprays, Lower Michigan

Chemical	Number of quarts of each component of the chemical mixture--per acre			
	Ester	Water	Fuel oil	Total
2,4-D	1	15	4	20
	1	7	2	10
	2	14	4	20
	2	6	2	10
2,4,5-T	1	15	4	20
	1	7	2	10
	2	14	4	20
	2	6	2	10